

13 Marketing

Introduction

13.1. This chapter examines AEA's general approach and business strategy toward marketing its various products and services. In its widest sense, business marketing activities may be regarded as including the development of good customer relations and the use of pricing policies. These are dealt with separately in this report, at Chapters 16 and 14 respectively.

13.2. Here, we consider marketing in a narrower sense but where it is nonetheless taken to include the main business measures employed by AEA to promote sales at an acceptable level of profit and otherwise to exploit commercially the markets in which it operates. Such measures include the use of strategic objectives, the organisation and administration of marketing functions within the businesses, and the resources employed to meet the objectives specified. We consider most particularly the economy, efficiency and effectiveness of AEA's marketing activities.

13.3. In the course of our inquiry, AEA provided to us a considerable amount of information on its marketing efforts, including individual business plans, its examination of a number of markets, a general overview of AEA's strategic approach and also a recent internal examination of marketing by AEA's Corporate Marketing Director. Additionally and in order to provide an independent assessment, we commissioned a study on AEA's marketing from a firm of outside consultants.

13.4. In discussing this evidence here, we first provide (paragraphs 13.5 to 13.10) a brief account of the market background to AEA's marketing, its main objectives and AEA's approach to organising its marketing functions. We then examine in more detail AEA's assessment of relevant markets (paragraphs 13.11 to 13.17); the sales growth targets of the businesses (paragraphs 13.18 to 13.20); AEA's marketing plans (paragraphs 13.21 and 13.22); the internal organisation of marketing resources (paragraphs 13.23 and 13.24); and the nature of AEA's marketing staff (paragraphs 13.25 to 13.27). Lastly, we consider the overall cost-effectiveness of AEA's marketing (paragraphs 13.28 to 13.30). Our conclusions and recommendations on AEA's marketing appear in paragraphs 13.31 to 13.49.

Background

13.5. As explained elsewhere in this report, AEA's role has changed radically in recent years, from that of a non-commercial, technology-based body financed directly by the Government to that of a commercially-oriented organisation, albeit still Government-owned, comprising nine separate businesses financed from customer revenues. As an integral part of this change, AEA is seeking both to diversify away from its nuclear activities into more widely-based industrial technology markets and to expand the level of its business in overseas markets. This commercialisation of its activities has presented AEA with new marketing challenges, particularly since, as AEA told us, it had relatively limited marketing experience and expertise prior to establishing the business structure in April 1990.

13.6. A feature of AEA's market circumstances is the predominance in its customer base of a small number of large and technically informed customers, which account for a relatively high share of AEA's turnover. Government and public sector customers account for around 80 per cent of AEA's turnover: DEN is the biggest of these and accounts for around half of AEA's total income. These large, traditional customers provide a substantial but declining income flow to AEA. To counter the forecast reductions in sales to these customers, it has become an important part of AEA's marketing strategy to broaden its

customer base, both in the domestic markets that it is now entering, and also in overseas markets, particularly the USA defence market, European markets generally and the Asian markets of Japan and Korea.

13.7. Another characteristic of AEA's marketing is that it is inevitably concerned with industrial markets and products, because of the technical nature of AEA's products and services, rather than being consumer-oriented. Hence, some types of sales promotion strategy such as the use of television advertising, for example, would not be cost-effective for AEA; and even mail-based advertising, whilst appropriate to some extent, needs to be carefully targeted. A further distinguishing feature of AEA's industrial marketing, as compared with the practice in most consumer-based markets, is the need for AEA to establish and maintain technical credibility with its customers, since in most of its markets this is a prerequisite for commercial success.

13.8. Nonetheless, AEA is increasingly faced with marketing its products in competitive industrial markets, where a detailed knowledge of those markets, an appreciation of demand characteristics and most particularly an understanding of competitors is also essential for commercial success. The need to develop the necessary skills and expertise to assess these market conditions has been one of the challenges that AEA has had to deal with over the past two years or so. AEA told us that it recognised these challenges, including, for example, the possible difficulties of penetrating overseas markets where its reputation was less well established, at an early stage in the development of its business structure. Whilst much progress has been made, especially over the past year or so, AEA told us that its marketing capability was still developing and that further improvements in a number of areas would be required.

13.9. AEA also emphasised to us that such improvements inevitably took time and that getting its marketing fully 'up to speed' would probably take another year or so. A particular difficulty facing AEA is to determine the range of products and services that it is able to market at an acceptable level of profit, ie which are commercially viable. AEA has a wide range of technical capabilities which give rise to a relatively large number of products, though in many cases the strength of commercial demand for these products is uncertain. AEA is aware of this potential difficulty and has made efforts in recent years to eliminate products and services which do not appear to be commercially viable. In the InTec business, for example, the product range was recently reduced from 130 to around 100. AEA considers, however, that there needs to be a continuing process of matching products to customer demand in order to develop a portfolio of products that are commercially successful.

13.10. Each of AEA's nine separate businesses provides its own range of products and services, which in some instances are complementary to one another. AEA has therefore devolved almost all responsibility for marketing to each of the businesses. In addition to marketing at the level of individual businesses, however, AEA maintains a central unit or directorate to carry out particular functions, including taking the main responsibility for marketing in overseas markets. Nonetheless, the businesses together account for over 90 per cent of the total AEA expenditure on marketing, which in 1990/91 was around £18 million.

AEA's assessment of relevant markets

13.11. In restructuring AEA into nine separate businesses, a central objective was to focus each business on different and broadly defined product markets. In practice, this involved grouping together related technical capabilities that could be applied to particular markets, with a division being drawn between nuclear and non-nuclear activities.

13.12. Table 13.1 shows the general structure of AEA's businesses in relation to a range of different markets external to AEA, with a clear distinction, to a first order of approximation, between nuclear and non-nuclear markets. The exceptions, indicated in the top right-hand quarter of Table 13.1, are modest in scale. They concern Harwell Instruments (in InTec), which supplies instrumentation to the nuclear industry; Health Physics and Radiological Protection Research (in E&E); and AEAE, which provides a management service to nuclear laboratories and also gets most of its business from the AEA nuclear businesses. There is also considerable internal trade between the nuclear and non-nuclear businesses.

TABLE 13.1 **AEA's main markets**

	RS	D&R	FS	FUS	InTec	E&E	S&R	APS	AEAE
Nuclear utilities	✓	✓			✓	✓			
Fuel companies	✓	✓	✓		✓	✓			
Nuclear vendors	✓								
Regulators	✓								
Laboratories	✓	✓	✓	✓	✓	✓			✓
Europrojects	✓			✓					
Aerospace					✓				
Defence					✓		✓		✓
Transport					✓	✓	✓		
Oil and gas							✓	✓	
Electronics					✓				
Environment					✓	✓	✓		
Manufacturing					✓				
Process					✓	✓	✓		✓
Medical					✓	✓			

Source: AEA.

13.13. AEA told us that there were practical difficulties in quantifying the parts of these external markets that were relevant to the individual businesses. These difficulties arise because AEA offers a large range of products within each market, but many of these products relate to niche markets where published data are not readily available.

13.14. AEA stated that most of its products and services were initially derived from the wide range of technical capabilities that AEA had developed in past years in its research work on nuclear energy. In its pursuit of 'technical excellence' in this area, AEA had developed many different specialised skills and a high level of technological capability in a range of other activities.

13.15. For a number of AEA's products, the strength of commercial demand was uncertain prior to the setting up of the business structure. In many cases, AEA is still examining whether or not products based on its technical capabilities are commercially viable. AEA told us that the list of products that it was capable of providing was very long; and indeed, that one of its marketing problems was that the list may be too long in commercial terms. Some products face particular marketing difficulties and AEA told us that for these the important commercial question was how long it was worthwhile to keep them going.

13.16. As a result and although AEA knows its traditional markets well, its marketing initiatives still suffer from limited quantitative information on both the nature and strength of demand in the newer domestic and overseas markets that it is attempting to enter, and the competitive situation that prevails in those markets. Individual AEA businesses vary in the extent to which they provide commercially viable products and services that are focused on particular and well-defined markets. Hence, AEA businesses have carried out market analyses in varying degrees of depth, but in general and particularly in the newer markets, efforts to obtain top-down information on markets, sectorised by country, industry or other suitable groupings, are still at an early stage.

13.17. Moreover, only limited information is available at the business level on relevant market statistics at the product level, the factors determining customers' propensity to buy AEA's products and the strengths and weaknesses of AEA's competitors. AEA told us that it recognised these weaknesses in its current marketing capability; and that it was taking steps to overcome them in order to develop its market share and growth targets and to position itself more appropriately against its main competitors.

Sales growth targets

13.18. Individual businesses within AEA are responsible, within a corporately defined framework, for producing their own forecasts of future growth in turnover and to some extent for setting sales targets for the years ahead. Tables 13.2 and 13.3 give figures, for the non-nuclear and nuclear businesses respectively, for actual sales in 1990/91 and projected sales for the period 1991/92 to 1994/95. Internal sales are for the most part sales by one AEA business to another AEA business; external sales are those to customers outside AEA. The main data are shown graphically at Figure 13.1.

TABLE 13.2 AEA non-nuclear businesses' sales in 1990/91 and projected sales for the period 1991/92 to 1994/95

	<i>£ million (at 1990 prices)</i>			
	1990/91	1991/92*	1992/93*	1994/95†
InTec external	31.2	35.8	44.2	67.0
InTec internal	<u>22.3</u>	<u>17.6</u>	<u>15.0</u>	<u>12.0</u>
Totals	53.5	53.4	59.2	79.0
InTec plan	59.4	57.4	60.5	72.0
E&E external (old)	13.5	12.7	12.5	12.0
E&E external (new)	7.7	9.0	10.0	12.0
E&E internal	<u>6.4</u>	<u>5.5</u>	<u>4.6</u>	<u>4.0</u>
Totals	27.6	27.2	27.1	28.0
E&E plan	25.7	27.1	27.2	29.0
S&R external (old)	9.9	8.5	8.4	8.0
S&R external (new)	2.2	5.2	6.1	8.0
S&R internal	<u>7.8</u>	<u>6.0</u>	<u>5.0</u>	<u>4.0</u>
Totals	19.9	19.7	19.5	20.0
S&R plan	18.7	19.4	19.9	22.0
APS external (old)	6.0	4.6	4.6	4.0
APS external (new)	4.4	7.9	8.7	11.0
APS internal	<u>2.8</u>	<u>3.0</u>	<u>2.7</u>	<u>2.0</u>
Totals	13.2	15.5	16.0	17.0
APS plan	13.3	16.1	16.3	19.0
AEAE external (old)	3.1	1.1	0.5	-
AEAE DRAWMOPS	5.0	9.9	7.6	4.0
AEAE external (new)	1.5	3.3	4.5	8.0
AEAE internal	<u>11.9</u>	<u>4.1</u>	<u>5.4</u>	<u>8.0</u>
Totals	21.5	18.4	18.0	20.0
AEAE plan	19.0	17.9	16.6	17.0
Total sales	135.7	134.2	139.8	164.0
Total plan	136.1	137.9	140.5	159.0
External (exc DRAWMOPS)	79.5	88.1	99.5	130.0
External plan	79.7	88.6	97.9	119.0

Source: MMC and AEA.

*AEA's forecast sales and projections included in the individual business plans.

†Sales figures based on MMC projections.

TABLE 13.3 AEA nuclear businesses' sales in 1990/91 and projected sales for the period 1991/92 to 1994/95

£ million (at 1990 prices)

	1990/91	1991/92*	1992/93*	1994/95†
RS external (old)	138.4	117.0	104.9	41.0
RS external (new)	2.5	2.4	4.0	11.0
RS internal	<u>18.7</u>	<u>13.9</u>	<u>12.0</u>	<u>10.0</u>
Totals	159.6	133.3	120.9	62.0
RS plan	161.2	144.8	122.2	70.0
D&R external (old)	31.2	27.9	24.3	18.0
D&R DRAWMOPS	21.8	45.3	59.2	47.0
D&R external (new)	2.9	3.1	4.4	9.0
D&R internal	<u>12.3</u>	<u>9.4</u>	<u>8.0</u>	<u>6.0</u>
Totals	68.2	85.7	95.9	80.0
D&R plan	67.8	83.1	96.7	88.0
FUS external (old)	19.6	15.6	14.9	14.0
FUS JET	8.0	7.3	7.4	6.0
FUS external (new)	0.4	0.6	0.6	1.0
FUS internal	<u>0.4</u>	<u>0.5</u>	<u>0.4</u>	-
Totals	28.4	24.0	23.3	21.0
FUS plan	28.2	24.2	23.3	20.0
FS external (old)	11.3	17.0	8.2	7.0
FS external (new)	3.1	10.3	18.3	25.0
FS internal (inc DRAWMOPS)	<u>33.6</u>	<u>30.6</u>	<u>29.1</u>	<u>13.0</u>
Totals	48.0	57.9	55.6	45.0
FS plan	54.7	54.0	55.2	41.0
Total sales	304.2	300.9	295.7	208.0
Total plan	311.9	306.1	297.4	219.0
External (exc DRAWMOPS & JET)	209.4	194.4	179.6	126.0
External plan	215.3	194.7	190.1	139.0

Source: MMC and AEA.

*AEA's forecast sales and projections included in the individual business plans.

†Sales figures based on MMC projections.

13.19. These data imply that there is likely to be a slight decrease overall in AEA's turnover in the period 1990/91 to 1994/95, mainly as a result of the forecast reduction in AEA's traditional nuclear business in the domestic market. The RS business, for example, is facing a general decline but may also experience a major reduction in turnover with closure of the PFR in 1994. Similarly, D&R's nuclear business is expected to grow up to 1992/93 because of increasing income from DRAWMOPS but thereafter a decrease is expected. Other nuclear businesses also forecast reductions in their traditional income which are not fully offset by increases in new business.

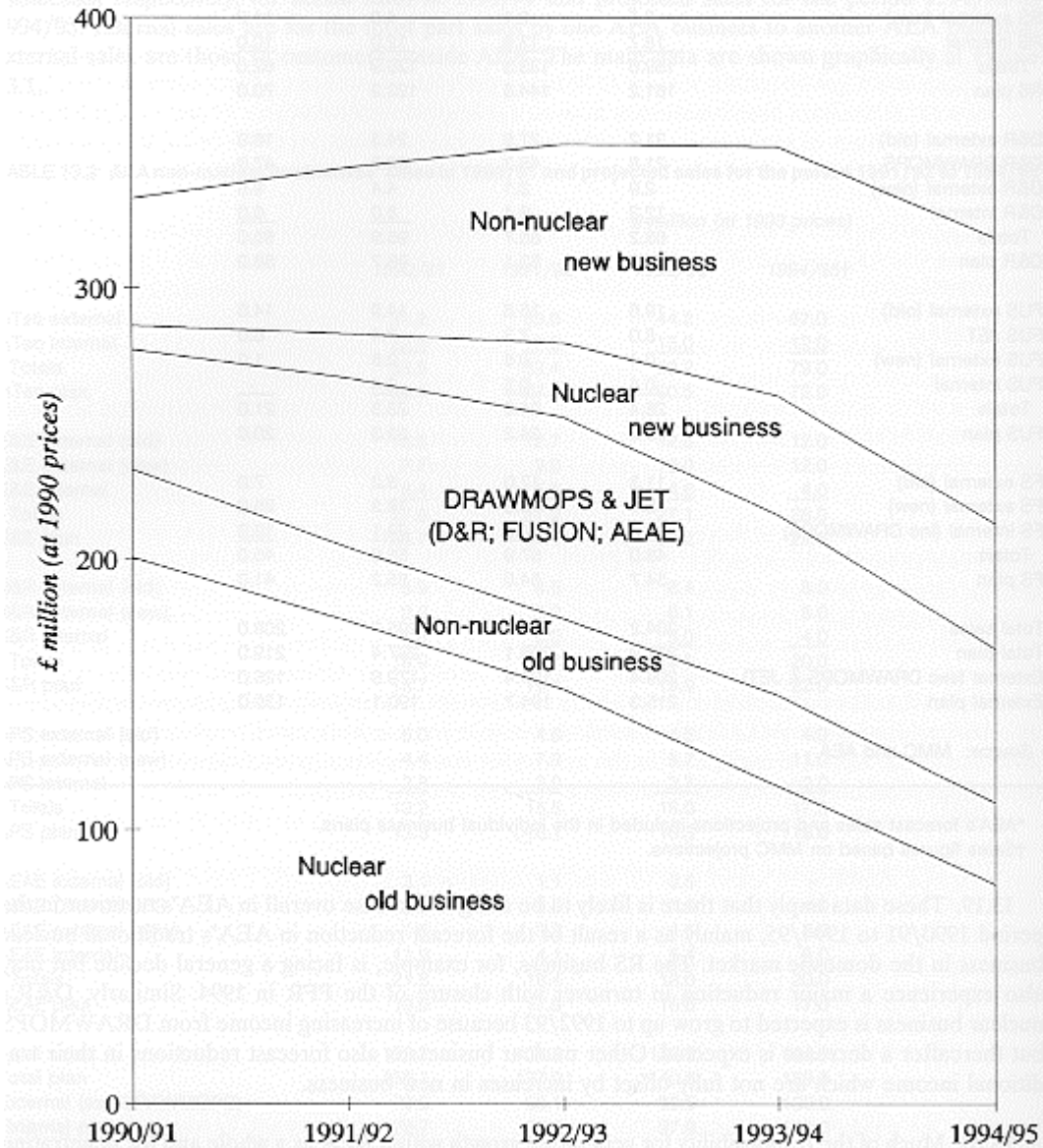
13.20. Much of the responsibility for generating growth within AEA as a whole and for penetrating new markets rests with the non-nuclear businesses. These also forecast a decline in the level of traditional income, though this is expected to be more than offset by forecast growth in new business. Taken together, these businesses expect a 20 per cent increase in total income over the period 1990/91 to 1994/95. Much of this expansion, however, is associated with the InTec business, since the other businesses forecast at best relatively modest growth over this period, despite the claims by these businesses that they are major competitors in their main markets. AEA told us that it considered that it should be setting the businesses increasingly ambitious, but nonetheless achievable, sales growth targets to ensure that AEA maintained its growth overall.

AEA marketing plans

13.21. AEA provided to us the current business plans, which include to varying degrees the associated marketing plans, of the individual businesses. Reflecting its still rather limited knowledge of the newer

FIGURE 13.1

AEA external sales in 1990/91 and projected sales for the period 1991/92 to 1994/95



Source: MMC.

newer markets in particular, AEA's business plans mostly provide a general review of the market opportunities and threats faced by the businesses. Their marketing plans are similarly rather general in nature and mostly therefore do not provide firm sales targets for the year ahead; nor do they give an assessment of the probability of success for targets that are set. AEA told us that this had been a weakness of its first attempts at business and marketing planning when the businesses were set up initially, though there had been a clear improvement since then. It added that further progress was, however, required.

13.22. A particular problem in devising marketing plans, in addition to the limited market information available, has been the lack of appropriate internal information systems and associated business planning models. As explained in Chapter 5, AEA is currently introducing new computer-based systems for the provision of accounting, management and business planning data. These are based primarily on the new FIS system, and for sales and business management on the BDIS system. At present, the individual businesses vary in their approach to providing information required for sales and marketing management.

Organisation of marketing resources

13.23. AEA's businesses have been permitted to develop their own forms of marketing organisation and administration, in line with what they have considered would be most appropriate for their particular business. Inevitably, this has led to variations both in the approach adopted by different businesses and in the effectiveness with which particular approaches have been applied. For the most part, the businesses have developed matrix forms of organisation, where staff have both functional and reporting responsibilities.

13.24. In most of the businesses, sales and profit responsibility is delegated to the technical departments rather than the component parts of the marketing departments. Moreover, in a number of businesses, for example InTec, E&E and APS, the role of the marketing department and its staff is essentially that of providing support and market advice only (for example, advice on promotion, assistance with preparing proposals and longer-term business planning). In other businesses, for example S&R and Fusion, the balance of responsibility is the reverse, and in the FS business, sales and profit responsibility is shared between marketing and technical departments.

Marketing staff

13.25. AEA has traditionally been a technology-led organisation and its present range of products and services is based on its specialised and technical skills. As mentioned earlier, AEA has inevitably emphasised industrial marketing, where establishing technical credibility with customers is important.

13.26. Most of AEA's marketing staff have in fact a strong technical and scientific background. In the AEAE business, for instance, all the marketing staff are engineers. The businesses vary in the extent to which they have recruited staff with marketing experience and skills from outside AEA. The APS business, for example, has recruited some staff with business and marketing experience in the petroleum industry. Similarly, InTec is currently planning to recruit experienced sales managers from outside AEA. More generally, AEA told us that it saw a need in most of its businesses for an increased level of recruitment of marketing staff from industrial companies.

13.27. Another and complementary approach to acquiring the right marketing expertise is to provide suitable training in marketing skills for AEA's technical staff. AEA told us that there was a continuing need for such training; that it had made good progress on this in the past year; and that it was in the process of developing suitable training course modules for its technical staff.

Cost-effectiveness of AEA's marketing

13.28. In 1990/91, AEA's expenditure on marketing came to £18 million, of which over 90 per cent was accounted for by the individual businesses. Marketing expenditure has increased substantially over the past two years, as the businesses have increased their efforts to penetrate new markets and compete for new customers. AEA told us that the data available on marketing costs included the known costs of the

marketing and technical staff with direct responsibility for marketing functions, as well as some other promotional expenditures, but that other costs incurred may not be covered because these were not measured or recorded as such. Additionally, some businesses do not as yet have firm forecasts of marketing costs for future years.

13.29. AEA's marketing activities are directed mainly, but not exclusively, at winning new business sales. AEA told us that the effective control of marketing costs had been examined as part of the recent review by its Corporate Marketing Director. The growth in marketing costs in the last few years was considered for the most part to reflect both the additional resources needed to establish and organise AEA's marketing capabilities and the increased efforts being made to penetrate new markets both domestically and overseas. Nonetheless, the measurement of cost-effectiveness was an area, AEA told us, which needed further development. AEA also commented both that the overall level of marketing costs needed to be better controlled than at present and that the measurement of costs incurred should be more comprehensive than it had been. At present, AEA's measures to promote cost-effectiveness include the use of sales targets set for particular marketing staff; and AEA is currently considering what additional measures may be required as the businesses become more established commercially.

13.30. A particular aspect of the cost-effectiveness of AEA's marketing concerns the appropriateness of its promotional literature and the effectiveness with which it is targeted at relevant customers and markets. AEA has not yet fully revised its sales literature following the setting up of the businesses, though it is in the process of doing so. In consequence, some of this literature remains highly technical and lacking in clear product and customer focus. AEA also told us that its literature was not at present generally available in foreign languages, though greater use of such material would be needed in future as AEA's sales developed in overseas markets.

Conclusions and recommendations

AEA's assessment of relevant markets

13.31. As AEA has stressed to us, the marketing organisations within each of the businesses have been set up only since the formation of the business structure itself in April 1990. Since then, the individual businesses have, with varying degrees of success, sought to develop their knowledge of the markets they face. Whilst much progress has been made, AEA accepts that it still has some way to go in this process.

13.32. Some of its products and services are still relatively unproven in the competitive markets which AEA is attempting to enter; and limited information is available to AEA on profitability at the product level. AEA's knowledge of these different markets is also variable. It knows its traditional markets well, but has yet to build up its information base and understanding of its newer markets. We have some concern that AEA's commercial prospects may be limited without greater knowledge both of market characteristics and of the strengths and weaknesses of competitors.

13.33. We conclude that:

- (a) AEA's approach to identifying relevant markets has been unduly oriented toward its own technical capabilities and has given insufficient attention to market requirements;
- (b) some of AEA's marketing initiatives still suffer from inadequate knowledge of the new markets which AEA is attempting to enter and of the competitive situation that prevails in those markets; and
- (c) AEA has recognised these weaknesses and is already taking steps to overcome them.

13.34. We therefore recommend that henceforth AEA should improve its market intelligence, particularly as regards market share analysis by product and service, and should undertake more 'bench-marking' against its main competitors.

Sales growth targets

13.35. Even to maintain turnover at its current level in real terms, AEA will need to achieve a significant growth in sales in the newer markets that it is now entering. AEA accepts that it will need to review the current sales growth targets of its individual businesses, particularly the non-nuclear ones, to ensure that they are sufficiently ambitious.

13.36. We conclude that the sales targets in the new markets are insufficiently ambitious, particularly amongst the non-nuclear businesses, to achieve the stated objective of effective diversification away from AEA's traditional (and declining) markets.

13.37. We therefore recommend that, in the course of developing its market intelligence, AEA should place necessary emphasis on reviewing the sales growth targets of its businesses to ensure that they are sufficiently ambitious and sustainable to meet the objectives of the AEA Corporate Plan.

AEA's marketing plans

13.38. We accept that AEA's marketing plans have shown some improvement since the businesses were first established, but they still appear to be too general in nature. They include only limited quantification of the relevant markets in which AEA is operating and give similarly limited attention to the setting of challenging but achievable sales targets. In part, this stems from the rather inadequate information systems and business planning tools used at present. The introduction of the new FIS, combined with more widespread use of BDIS, should greatly enhance the capability of the individual businesses to develop better specified marketing plans in future.

13.39. We conclude that the overly general business plans and the inadequate information systems used by AEA have limited the effectiveness of sales and marketing management.

13.40. We therefore recommend that AEA should:

- (a) improve the quality of its business and marketing plans in the next planning cycle by including more quantification of markets and sales objectives; and
- (b) introduce common format marketing control systems based on BDIS and FIS.

Organisation of marketing resources

13.41. We conclude that the present state of development of marketing departments within AEA businesses is variable, and that, in some cases, marketing functions are given insufficient priority.

13.42. We therefore recommend that during the next planning cycle AEA should apply 'best practice' marketing structures more uniformly across its businesses.

Marketing staff

13.43. Most of AEA's staff with marketing responsibilities are scientists by background or staff with engineering and technical skills. We consider that in order to develop its marketing capabilities, AEA will require more staff than it has at present with industrial marketing expertise drawn from outside AEA. AEA accepts this and is in the process of recruiting such staff. It also employs many staff with suitable technical skills who might offer a valuable contribution to AEA's marketing if given appropriate training.

13.44. We conclude that AEA and the individual businesses rely too heavily on using their own technical staff in a marketing capacity, and that more marketing expertise needs to be recruited from outside AEA.

13.45. We therefore recommend that henceforth AEA should:

- (a) increase the level of training, for example by secondment to other comparable organisations, and thereby improve the level of marketing expertise of its technical staff, particularly those employed in marketing functions; and
- (b) recruit more trained and experienced marketing staff from outside AEA.

Cost-effectiveness of AEA's marketing

13.46. AEA's marketing costs have increased substantially in recent years. In 1990/91 they amounted to £18 million. AEA does not have as yet, however, reliable and comprehensive information on the full costs incurred on marketing its products. As AEA accepts, it also has few means of determining whether or not the expenditure is fully effective in increasing sales.

13.47. We are concerned about the level of AEA's marketing costs in relation to both the forecast growth of sales, particularly for the nuclear businesses, and the expected level of profit. In our view, firm systems of control by the businesses will be needed to ensure that marketing expenditures are effective in expanding the level of profitable sales. Moreover, improved product and customer focus in AEA's marketing, including the use of appropriate promotional literature, will also be required in future.

13.48. We therefore conclude that:

- (a) AEA's marketing, including its sales literature, needs to give better customer focus, and thereby improve its cost-effectiveness; and
- (b) AEA should pay more attention than at present to evaluating both the cost-effectiveness and the impact of its marketing efforts.

13.49. We recommend that over the next year AEA should review its overall marketing spend and the cost-effectiveness of its marketing strategies, and should introduce procedures for evaluating the cost-effectiveness of its marketing.